REMARKS

The Office Action dated January 22, 2009 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 9, 14, 15, 17, 20, 21 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Support for these amendments is provided in paragraphs [0029], [0030] and [0034] of the originally filed specification. Claims 13 and 22 have been canceled without prejudice or disclaimer. Claims 23-27 have been newly added. No new matter has been added and no new issues are raised which require further consideration or search. Claims 1-9, 11-15 and 17-21 and 23-27 are presently pending.

The Office Action indicated that claim 3 has been allowed. Applicant wishes to thank the Examiner for the allowance of claim 3. However, claims 1, 4-9, 11-15 and 17-21 and 23-27 are respectfully submitted for reconsideration.

Initially, Applicant wishes to thank the Examiner for the courtesies extended during the in-person interview conducted on March 3, 2009. During the course of the interview various features of the claims and specification were discussed. The disclosure of Takahashi was discussed along with the rejections of the claims. Applicant has amended independent claims 1, 9, 13-15, 17 and 20-22 to clarify the claimed subject matter. In particular, the claims have been amended to clarify that the size of queue is variable and depends on a number of released addresses, and, the next address to be

reassigned is selected from a first address position of the queue. Accordingly, Applicant submits that all of the pending claims 1-9, 11-15 and 17-21 and 23-27 are in condition for allowance.

Claims 1, 2, 4-9, 11-15 and 17-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Baum (U.S. Patent Publication No. 2004/0071164) in view of Donaldson (U.S. Patent No. 6,321,267) and further in view of Takahashi (U.S. Patent Publication No. 2002/0054602). The Office Action took the position that Baum and Donaldson disclose all of the elements of the claims, with the exception of the size of the queue being variable and depending on stack implementations of correspondent nodes. Applicant has amended the rejected independent claims. For instance, independent claim 1, and similarly independent claims 9, 14, 15, 17, 20 and 21 recite, "wherein the size of the at least one queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and wherein a next address that is selected to be reassigned to a next new user is selected from a first address position of the at least one queue." Applicant submits that none of the above-noted references disclose these features of the claims.

Claim 1, upon which claim 2-8 are dependent, recites an apparatus that includes an address management entity comprising at least one queue configured to hold released addresses. The address management entity is configured to detect that a packet has been addressed to a released address held in the at least one queue, and return the held address to which the packet has been addressed to an end of the at least one queue. The size of

the at least one queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and a next address that is selected to be reassigned to a next new user is selected from a first address position of the at least one queue.

Claim 9, upon which claims 11 and 12 are dependent, recites an apparatus that includes an address management entity configured to receive a packet addressed to an unused address. The address management entity is also configured to send an error notification to a network node configured to manage addresses, the error notification indicating the unused address. The error notification causes a return of a released address held in a queue and corresponding to the unused address to an end of the queue, the queue holding released addresses. The size of the queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and a next address that is selected to be reassigned to a next new user is selected from a first address position of the queue.

Claim 14 recites a method that includes detecting that a packet has been addressed to a released address held in a queue holding released addresses. The queue operates on a network element. The method also includes returning the held address, to which the packet has been addressed, to an end of the queue. The size of the queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and a next address that is selected to be reassigned to a next new user is selected from a first address position of the queue.

Claim 15 recites a method that includes receiving a packet addressed to an unused address, and sending an error notification to a network node configured to manage addresses. The error notification indicates the unused address. The sending the error notification further includes causing a return of a released address held in a queue and corresponding to the unused address to an end of the queue, the queue holding released addresses. The size of the queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and a next address that is selected to be reassigned to a next new user is selected from a first address position of the queue.

Claim 17, upon which claims 18 and 19 are dependent, recites a computer-readable program distribution medium encoding a computer program of instructions being configured to control a processor to perform certain operations. The processor may perform detecting that a packet has been addressed to a released address held in a queue holding released addresses. The queue operates on a network element. The processor may also perform returning the held address, to which the packet has been addressed, to an end of the queue. The size of the queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and a next address that is selected to be reassigned to a next new user is selected from a first address position of the queue.

Claim 20 recites an apparatus that includes holding means for holding released addresses, and detecting means for detecting that a packet has been addressed to a released address held in the at least one holding means. The apparatus also includes

returning means for returning the held address to which the packet has been addressed to an end of the at least one holding means. The size of the holding means is variable and depends on a number of released addresses of correspondent nodes of previous users, and a next address that is selected to be reassigned to a next new user is selected from a first address position of the holding means.

Claim 21 recites an apparatus that includes receiving means for receiving a packet addressed to an unused address, and sending means for sending an error notification to a network node configured to manage addresses. The error notification indicates the unused address. The error notification causes a return of a released address held in a queue and corresponding to the unused address to an end of the queue. The size of the queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and a next address that is selected to be reassigned to a next new user is selected from a first address position of the queue.

As will be discussed below, the combination of Baum, Donaldson and Takahashi fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above. The rejection is respectfully traversed for at least the following reasons.

Baum discloses detecting attempts to obtain IP addresses by using a fictitious MAC address in a data portion of an IP address request message. When a device connected to a LAN requires an IP address for access to an IP network, the device broadcasts an IP address assignment request message. The request is detected by an edge

router on the LAN which responds by acting as a proxy to the requesting device and which initiates a dynamic host configuration protocol (DHCP) session with a DHCP server. In response to an IP address assignment request, the DHCP server assigns the requesting device an available IP address from a pool 1009 illustrated in Fig. 10. In addition, the server removes the address from the pool 1009 and creates a new entry 1016 in an IP address lease information table 1014 (see paragraphs [0101] and [0102] of Baum).

Baum does not disclose "wherein the size of the at least one queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and wherein a next address that is selected to be reassigned to a next new user is selected from a first address position of the at least one queue", as recited in independent claim 1 and similarly in independent claims 9, 14, 15, 17, 20 and 21.

Baum does not disclose any type of "queue" at all. The pool of available IP addresses (see 1009 of FIG. 10) of Baum is described as "a list of unused IP addresses which the DHCP server 520 is authorized to lease to requesting devices" (see paragraph [0100] of Baum). There are no specific examples disclosed in Baum regarding the characteristics of the pool 1009. At best, the pool 1009 will receive information of new addresses when they become available, and, conversely will let go of addresses as they are assigned by the DHCP server 520. The pool 1009 is not comparable to a queue having a variable size that depends on a number of released addresses of correspondent nodes of previous users.

In addition to the above noted deficiencies of Baum with respect to the claims, Donaldson fails to cure those deficiencies of Baum, as the teachings of Donaldson also fail to teach or suggest "wherein the size of the at least one queue is variable and depends on a number of released addresses of correspondent nodes of previous users, and wherein a next address that is selected to be reassigned to a next new user is selected from a first address position of the at least one queue", as recited in independent claim 1 and similarly in independent claims 9, 14, 15, 17, 20 and 21.

Donaldson is directed to filtering junk email. The method disclosed in Donaldson also provides the ability to automatically append IP addresses detected by certain sensor points back into an IP filtering list. Once the IP addresses have been detected, those hosts whose IP addresses have recently been detected can be subsequently blocked by a simple IP lookup mechanism. This provides a quick way to reject subsequent connections from IP addresses that have already been rejected by an active filtering operation. Baum does not seek to block or filter devices based on their IP addresses and has no relation to the teachings of Donaldson.

As for the discussion of queues in Donaldson, message text of a processed message is placed in a queue 1042 of outgoing messages (see column 2, lines 18-22 of Donaldson). During an SMTP session between sending and receiving message transfer agents (MTAs), messages are transferred from a message queue of the sending device 1042 to a message queue of a receiving device 1046. Once the SMTP message transfer session is complete the message is removed from the sending queue 1042 of the sending

host, and the receiving host will notify the user agent to read the message in mail queue 1046. The message queues 1042 and 1046 of Donaldson are not comparable to the cooling queue of the preset application. Donaldson does not disclose any queue sizing criteria that discloses that the size of the at least one queue is variable and depends on a number of released addresses of correspondent nodes of previous users.

Donaldson discloses performing blacklisting of IP addresses. Nowhere in Donaldson, and in particular not at columns 6, 8, 18 and 24, is it disclosed that the size of the at least one queue is variable and depends a number of released addresses of correspondent nodes of previous user. Donaldson only discloses that a message may cause a sender's IP address to be added to the end of the list in which case the IP address is not already on the list (see column 18, lines 12-29 of Donaldson).

In addition to the above-noted deficiencies of Baum and Donaldson, Applicant submits that Takahashi also fails to cure the deficiencies of Baum and Donaldson with respect to the pending claims.

Takahashi discloses a packet switch that operates to perform writing a variable length packet (see paragraphs [0038] and [0039] of Takahashi). The packet switch includes a plurality of input line interfaces 10-1 to 10-n for dividing a variable length packet 100. The demultiplexer 23 sequentially distributes the data blocks read out from the shared buffer memory 22 to a signal line L22 to a plurality of output line interfaces 20-1 to 20-n.

The variable length packet is received from each of the input lines into a shared buffer memory 22 having fixed length data block units 110A. A buffer controller 30 forms an input queue for each input line, and when the last data block of a variable length packet is registered in the input queue, it links a linked address list for the input queue to one or a plurality of output queues corresponding to respective packet destination output lines.

Takahashi does not disclose a variable sized queue. The only "variable" that is defined by Takahashi is a variable sized packet having a variable amount of packet data that is eventually fixed into a fixed data block unit(s) 110. Additionally, paragraphs [0114], [0118] and [0120] of Takahashi (noted by the Office Action) do not disclose that "the size of that at least one queue depends on a number of released addresses of correspondent nodes of previous users", as recited in independent claim 1 and similarly in independent claims 9, 14, 15, 17, 20 and 21.

Takahashi does not disclose released addresses occupying a queue. Furthermore, because Takahashi does not disclose released addresses and a variable queue, then, certainly, Takahashi does not disclose a variable queue that varies in size based on the number of released addresses.

Therefore, Applicant submits that Baum, Donaldson and Takahashi, taken individually or in combination, fail to disclose all of the subject matter of independent claims 1, 9, 14, 15, 17, 20 and 21. By virtue of dependency, Baum, Donaldson and

Takahashi also fail to disclose all of the subject matter of those claims dependent thereon. Withdrawal of the rejection of claims 1, 2, 4-9, 11-15 and 17-22 is kindly requested.

For at least the reasons discussed above, Applicant respectfully submits that the cited references fail to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-9, 11-15 and 17-22 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

Kamran Emdadi
Registration No. 58,823

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Vienna, Virginia 22182-6212
Telephone: 703-720-7800
Fax: 703-720-7802

KE:sjm

Enclosures: Additional Claims Fee Transmittal
Check No. 20619